

Atty. Docket No.: BP 2858

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IN THE CLAIMS:

1. (Previously Amended) A mobile network relay device operable to facilitate a wireless device handoff that includes existing wireless communications, wherein the handoff of the wireless device and existing communications occurs between an intra-vehicular wireless network and a first extravehicular wireless network, comprising:

a first wireless interface operable to communicate with a wireless device over the intra-vehicular wireless network, the wireless device operable to communicate through a second extravehicular wireless network;

a second wireless interface operable to communicate with the first extravehicular wireless network; and

a vehicular mountable relay that communicatively couples the first wireless interface and the second wireless interface and that routes communications between the wireless device and the first extravehicular wireless network.

wherein a coverage area of the intra-vehicular wireless network overlaps with a coverage area of the second extravehicular wireless network; and

the vehicular mountable relay controls and services the wireless device handoff between the second extravehicular wireless network and the first extravehicular wireless network.

2. (Previously Amended) The mobile network relay device of Claim 1, wherein:
the intra-vehicular wireless network is short-range digital radio network; and
the first extravehicular network and the second extravehicular network are at least one cellular network.

3. (Original) The mobile network relay device of Claim 2, wherein the short-range digital radio network is a Bluetooth® network.

4. (Previously Amended) The mobile network relay device of Claim 1, wherein:
a coverage area of the intra-vehicular wireless network overlaps with a coverage area of a premises based wireless network; and

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the vehicular mountable relay controls and services handoff of the wireless communications between the premises based wireless network and the first extravehicular wireless network.

5. (Previously Amended) The mobile network relay device of Claim 4, wherein during handoff parallel communication paths exist to service the wireless device, and wherein the parallel communication paths comprise:

a first communication path exists between the wireless device and the premises based wireless network; and

a second communication path exists between the wireless device and the first extravehicular wireless network via the first wireless interface, the vehicular mountable relay, and the second wireless interface.

6. (Original) The mobile network relay device of Claim 4, wherein the wireless device is a telephone hand set.

7. (Original) The mobile network relay device of Claim 4, wherein the wireless device is a Personal Data Assistant.

8. (Previously Amended) The mobile network relay device of Claim 4, wherein the vehicular mountable relay services handoff from a first extravehicular wireless network to a cellular network to a second extravehicular wireless network.

9. (Previously Amended) The mobile network relay device of claim 8, wherein the first extravehicular wireless network and the second extravehicular wireless networks have non-contiguous service coverage areas.

10. (Previously Amended) The mobile network relay device of claim 4, wherein the first extravehicular wireless network is a satellite based wireless communication network.

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11. (Original) The mobile network relay device of claim 6, wherein the vehicular mountable relay determines capabilities of the telephone hand set.
12. (Original) The mobile network relay device of claim 11, wherein the vehicular mountable relay makes handoff decisions based upon the capabilities of the telephone hand set.
13. (Original) The mobile network relay device of claim 12, wherein the telephone hand set has Bluetooth®, 802.11, and/or cellular interfaces.
14. (Previously Amended) The mobile network relay device of claim 13, wherein:
a cellular connection through the telephone hand set's cellular interface has a first quality of signal;
a communication pathway through the extravehicular wireless network has a second quality of signal; and
a processor directs that communications of the wireless device be serviced by the cellular connection or first extravehicular wireless network based on a comparison of the first quality of signal and the second quality of signal.
15. (Original) The mobile network relay device of claim 13, wherein a processor directs that communications of the wireless device be serviced by the Bluetooth®, 802.11, or cellular interfaces based on power consumption associated with the Bluetooth®, 802.11, and cellular interfaces.
16. (Previously Amended) The mobile network relay device of claim 5, wherein the vehicular mountable relay monitors a signal strength of the second extravehicular wireless network and initiates handoff to the first extravehicular wireless network when the signal strength compares unfavorably to a handoff threshold.
17. The mobile network relay device of claim 1, wherein the wireless device is registered with the first wireless interface.

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18. (Previously Amended) A mobile network relay device mounted within a vehicle the mobil network relay device operable to facilitate a wireless device handoff that includes existing wireless communications, wherein the handoff of the wireless device and existing communications occurs between an intra-vehicular wireless network and a first extravehicular wireless network, comprising:

a first wireless interface operable to communicate with a wireless device over an intra-vehicular wireless network, wherein the intra-vehicular wireless network is a short-range digital radio network, the wireless device operable to communicate through a second extravehicular wireless network;

a second wireless interface operable to establish an communication pathway with an first extravehicular wireless network, wherein the first extravehicular wireless network is a cellular network or a satellite based network; and

a vehicular mountable relay that communicatively couples the first wireless interface and the second wireless interface and that routes communications between the wireless device and the first extravehicular wireless network

wherein a coverage area of the intra-vehicular wireless network overlaps with a coverage area of the second extravehicular wireless network; and

the vehicular mountable relay controls and services the wireless device handoff between the second extravehicular wireless network and the first extravehicular wireless network.

19. (Original) The mobile network relay device of Claim 18, wherein the short-range digital radio network is a Bluetooth® network.

20. (Previously Amended) The mobile network relay device of Claim 18, wherein:
a coverage area of the intra-vehicular wireless network overlaps with a coverage area of a second extravehicular wireless network; and

the vehicular mountable relay controls and services handoff of the wireless device between the second extravehicular wireless network and the first extravehicular wireless network.

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21. (Previously Amended) The mobile network relay device of Claim 20, wherein during handoff parallel communication paths exist to service the wireless device, and wherein the parallel communication paths comprise:

a first communication path exists between the wireless device and the second extravehicular wireless network; and

a second communication path exists between the wireless device and the first extravehicular wireless network via the first wireless interface, the vehicular mountable relay, and the second wireless interface.

22. (Original) The mobile network relay device of Claim 20, wherein the wireless device is a telephone hand set.

23. (Original) The mobile network relay device of Claim 20, wherein the wireless device is a Personal Data Assistant.

24. (Previously Amended) The mobile network relay device of Claim 20, wherein the vehicular mountable relay services handoff from a first second extravehicular wireless network to a cellular network to a second second extravehicular wireless network.

25. (Previously Amended) The mobile network relay device of claim 24, wherein the first second extravehicular wireless network and the second second extravehicular wireless networks have non-contiguous service coverage areas.

26. (Original) The mobile network relay device of claim 18, wherein the vehicular mountable relay determines capabilities of the telephone hand set.

27. (Original) The mobile network relay device of claim 26, wherein the vehicular mountable relay makes handoff decisions based upon the capabilities of the telephone hand set.

28. (Original) The mobile network relay device of claim 27, wherein the telephone hand set has Bluetooth®, 802.11, and/or cellular interfaces.

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29. (Previously Amended) The mobile network relay device of claim 28, wherein:
a cellular connection through the telephone hand set's cellular interface has a first quality of signal;

a communication pathway through the extravehicular wireless network has a second quality of signal; and

a processor directs that communications of the wireless device be serviced by the cellular connection or first extravehicular wireless network based on a comparison of the first quality of signal and the second quality of signal.

30. (Original) The mobile network relay device of claim 28, wherein a processor directs that communications of the wireless device be serviced by the Bluetooth®, 802.11, or cellular interfaces based on power consumption associated with the Bluetooth®, 802.11, and cellular interfaces.

31. (Previously Amended) The mobile network relay device of claim 21, wherein the vehicular mountable relay monitors a signal strength of the second extravehicular wireless network and initiates handoff to the first extravehicular wireless network when the signal strength compares unfavorably to a handoff threshold.

32. (Original) The mobile network relay device of claim 18, wherein the wireless device is registered with the first wireless interface.

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33. (Currently Amended) A method to service communications with a mobile wireless devices, comprising:

establishing a communication pathway between the mobile wireless device and a second extravehicular wireless network, wherein the communication pathway allows the mobile wireless device to communicate with resources available through the second extravehicular wireless network;

moving the mobile wireless device to an area wherein coverage of the second extravehicular wireless network overlaps an intra-vehicular wireless network;

establishing a parallel communication pathways that comprise:

a first communication path between the mobile wireless device and the second extravehicular wireless network; and

a second communication path between the mobile wireless device and an first extravehicular wireless network via a vehicular wireless interface, a vehicular mountable relay, and an extra-vehicular wireless interface; and

handing the wireless device from the second extravehicular wireless network to the intra-vehicular wireless network, wherein the parallel communication pathways allows continuous communications between the mobile wireless device and the resources, and wherein the first communication path is terminated after a favorable handoff.

34. (Previously Amended) The method of Claim 33, wherein the second extravehicular wireless network and the vehicular wireless network are short-range digital radio networks and wherein the parallel communication pathway is a cellular network.

35. (Original) The method of Claim 33, wherein establishing a parallel communication pathway further comprises:

communicating with the mobile wireless device via a vehicular wireless interface operable to communicate with the mobile wireless device over the vehicular wireless network; and

relaying communications between the mobile wireless device and the resources from the vehicular wireless interface, through a mobile network relay, and to an extravehicular wireless interface operable to establish a communication pathway with an external network.

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36. (Original) The method of Claim 35, wherein the mobile wireless device is a telephone hand set.
37. (Original) The method of Claim 35, wherein the mobile wireless device is a Personal Data Assistant or computing device.
38. (Previously Amended) The method of claim 35, further comprising servicing handoff from a firstsecond extravehicular wireless network to a cellular network to a second second extravehicular wireless network.
39. (Original) The method of claim 38, wherein the first premises based wireless network and the second premises based wireless networks have non-contiguous service coverage areas.
40. (Previously Amended) The method of claim 33, wherein the first extravehicular wireless network is a satellite based wireless communication network.
41. (Original) The method of claim 33, further comprising determining capabilities of the mobile wireless device.
42. (Original) The method of claim 41, further comprising making handoff decisions based upon the mobile wireless device.
43. (Original) The method of claim 42, wherein the mobile wireless device has Bluetooth®, 802.11, and/or cellular interfaces.
44. (Previously Amended) The method of claim 43, further comprising directing that the mobile wireless device be serviced according to a comparison of a cellular connection through the mobile wireless device's cellular interface's quality of signal and the quality of signal of a communication pathway through the first extravehicular wireless network.

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45. (Original) The method of claim 43, further comprising directing that the mobile wireless device be serviced by the Bluetooth®, 802.11, or cellular interfaces based on power consumption associated with the Bluetooth®, 802.11, and cellular interfaces.

46. (Previously Amended) The method of claim 43, further comprising initiating handoff to the first extravehicular wireless network when the signal strength compares unfavorably to a handoff threshold.

47. (Original) The method of claim 33, further comprising registering the mobile wireless device with the vehicular wireless network.